

Assignment 4

Textbook Assignment: "Sewing Machine Repair." Pages 4-1 through 4-37.

<hr/> <p>Learning Objective: Recognize maintenance responsibilities in troubleshooting, repairing, and replacing parts of the Class 111 sewing machine.</p> <hr/>		4-5.	The 111 W 155 sewing machine may be operated to what maximum number of stitches per minute (SPM)?
			1. 2200 2. 2800 3. 3500 4. 4000
4-1.	The single needle, rotary axis 111 W 155 sewing machine makes which of the following federal standard stitches?	4-6.	The 111 W 155 sewing machine has a stitch per inch (SPI) range of
	1. 103 2. 200 3. 301 4. 400		1. 3 1/2 to 30 2. 5 to 32 3. 3 1/2 to 32 4. 5 to 30
4-2.	Which of the following sewing machines is NOT suited for sewing medium-heavy fabrics?	4-7.	What component holds the material as the needle is raised and moves forward for another bight?
	1. Singer 111 W 155 2. Juki LU-562 3. Consew 225 4. Singer 31-15		1. Feed dogs 2. Vibrating presser 3. Feed eccentric 4. Lifting presser
4-3.	The 111 W 155 sewing machine features a <u>rotary axis</u> ; to what component does this term apply?	4-8.	In which direction will the 111 W 155 sewing machine move the fabric being sewed?
	1. Safety clutch 2. Arm shaft 3. Sewing hook 4. Feed eccentric		1. Toward the operator 2. Away from the operator 3. Either toward or away from the operator, depending on the setting of the feed drive eccentric
4-4.	The feeding action of the 111 W 155 sewing machine allows which components to move in unison?	4-9.	The 111 W 151 sewing machine has a stitch per inch (SPI) range of
	1. The lifting presser foot, the pinion gear, and the feed dogs 2. The vibrating presser, the needle, and the feed dogs 3. The lifting presser, the needlebar, and the feed dogs 4. The vibrating presser, the lifting presser, the needle, and the feed dogs		1. 3 1/2 to 30 2. 5 to 32 3. 3 1/2 to 32 4. 5 to 30

- 4-10. What is the maximum presser foot lift for the 111 W 155 sewing machine?
1. One-half in.
 2. One-eighth in.
 3. Three-fourths in.
 4. Three-sixteenths in.
- 4-11. What is the maximum presser foot lift for the 111 W 151 sewing machine?
1. One-half in.
 2. Three-eighths in.
 3. Three-fourths in.
 4. Three-sixteenths in.
- 4-12. The 111 W 155 and 111 W 151 are similar in most features EXCEPT that the 111 W 151 has only one
1. feed drive eccentric
 2. presser foot
 3. oiling point
 4. feed dog
- 4-13. An accumulation of dust and lint will cause the same sluggish operation problem as a loose puny belt.
1. True
 2. False
- 4-14. New sewing machines should be cleaned to remove corrosion preventive substances that were applied at the factory. What substance is used to remove corrosion preventive substances?
1. Stoddard solvent
 2. Freon 113
 3. Diesel fuel
 4. JP-5
- 4-15. After using a sewing machine, you should clean and oil it.
1. True
 2. False
- 4-16. Compressed air should never be used to clean a sewing machine.
1. True
 2. False
- 4-17. An excessive amount of oil on the working parts of any sewing machine will probably result in which of the following conditions?
1. The oil will dry out and cause grease to form on friction surfaces
 2. The oil will drip on materials being sewn and soil the project
 3. The oil will accumulate in the drip pan and overflow on the drive motor
 4. The oil will cause condensation that will drip into the drive motor
- 4-18. Hard to reach places on the sewing machine may be cleaned with
1. a medium soft bristle brush only
 2. low pressure air only
 3. a medium soft bristle brush and low pressure air
- 4-19. At what minimum interval should sewing machines be given a through cleaning and oiling?
1. Every 3 mo
 2. Every 6 mo
 3. Every 12 mo
 4. Every 18 mo
- 4-20. A clean dust cloth should be used to clean all sewing machine parts EXCEPT the
1. head
 2. oil pan
 3. motor casing
 4. arm shaft
- 4-21. If unable to obtain the recommended types of oil required by the manufacturer, you may use which of the following oils as a substitute?
1. Cod oil
 2. Turbine oil
 3. Mineral oil
 4. STP oil treatment
- 4-22. Continual malfunction of a sewing machine is most likely caused by which of the following conditions?
1. Electrical lead unplugged
 2. Out of timing sequence
 3. Lack of lubrication
 4. Drive motor wired backwards

- 4-23. Complete disassembly of the 111 W 155 sewing machine is necessary to properly set the timing sequence.
1. True
 2. False
- 4-24. When the arm shaft is timed with the hook drive shaft, it is necessary to turn the balance wheel toward the operator until which of the following components reaches its highest position?
1. Bell crank
 2. Needlebar
 3. Thread take-up lever
 4. Drive belt
- 4-25. In timing the arm shaft with the hook drive shaft, you must align the timing mark on the timing plate with the timing mark on which of the following components?
1. Hook drive shaft
 2. Arm shaft
 3. Feed drive shaft
 4. Pinion gear
- 4-26. After timing the arm shaft with the hook drive shaft, you should perform which of the following actions?
1. Set the hook to the needle
 2. Install the connection belt pulley
 3. Set the feed dogs
 4. Install the motor drive belt
- 4-27. Centering the feeding action on the 111 W 155 sewing machine is accomplished by ensuring that the feed dogs do NOT strike the throat plate.
1. True
 2. False
- 4-28. Which of the following actions prevent(s) the needle from wandering from side to side?
1. Ensuring the needlebar rock frame hinge stud is tight
 2. Ensuring the needlebar rock frame guide bracket is tight
 3. Both 1 and 2 above
 4. Ensuring the needlebar is properly timed and tight
- 4-29. To set the 111 W class sewing machine to its maximum stitch length, which of the following actions is required?
1. Depress the plunger and turn the balance wheel toward the operator
 2. Depress the plunger and turn the balance wheel away from the operator
 3. Push the stitch regulator lever all the way down
 4. Push the stitch regulator lever all the way up
- 4-30. Which of the following actions allows you to adjust the movement of the feed dogs?
1. Loosen the feed dog fork
 2. Loosen the feed driving crank pinch screw
 3. Remove the throat plate
 4. Remove the feed driving cam
- 4-31. To time the sewing hook and the needlebar on the sewing machine, you should remove which of the following parts?
1. Throat plate
 2. Feed dogs
 3. Presser foot
 4. All of the above
- 4-32. Which of the following methods should you use to adjust the hook guard?
1. Loosen the two screws and move the hook guard left or right
 2. Move the adjusting screw clockwise
 3. Bend the hook guard washer
- 4-33. Which of the following parts prevents the needle from striking the sewing hook ?
1. Safety clutch
 2. Hook gib
 3. Hook guard
 4. Hook pinion gear
- 4-34. Which of the following parts controls the feeding motion provided by the alternating pressers?
1. Feed driving cam
 2. Feed driving rock shaft
 3. Pressure lifting cam
 4. Pressure lifting eccentric

- 4-35. When timing the pressure lifting eccentric, you should set the sewing machine at
1. 3 1/2 SPI
 2. 5 SPI
 3. 8 SPI
 4. 32 SPI
- 4-36. What is the purpose of the thread controller spring?
1. It prevents the bobbin thread from breaking
 2. It prevents the upper thread from breaking
 3. It prevents the sewing hook from piercing the thread
 4. It prevents the needle from piercing the thread
- 4-37. Which of the following statements concerning the thread controller spring is correct?
1. It rests on the thread controller spring stop as the point of the needle enters the material
 2. It rests on the thread controller spring stop as the needle reaches its highest point
 3. It prevents the bobbin thread from jamming under the throat plate
- 4-38. When adjusting the thread tension and you cannot properly adjust it with the upper thread tension disc, what action should you take?
1. Change the size of thread
 2. Change the needle size
 3. Adjust the bobbin tension
 4. Adjust the presser foot tension
- 4-39. If your machine is hard to turn after you time and adjust it, which of the following actions must be performed first?
1. Check the feeding action
 2. Remove the arm shaft connection belt
 3. Remove the throat plate and set the stitches to zero
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- Learning Objective: Identify the functions, adjustments, timing and general maintenance applicable to the 31-15 sewing machine.
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- 4-40. Which of the following is an oscillating type sewing machine?
1. 31-15
 2. 331K1
 3. Consew C-30
 4. Each of the above
- 4-41. The 31-15 sewing machine will sew canvas up to
1. 4 oz
 2. 6 oz
 3. 8 oz
 4. 10 oz
- 4-42. What is the stitch range on the Consew C-30?
1. 5 to 30 SPI
 2. 7 to 32 SPI
 3. 5 to 27 SPI
 4. 7 to 27 SPI
- 4-43. What is the clearance between the presser foot and the throat plate at the 31-15 sewing machine?
1. One-fourth in.
 2. One-eighth in.
 3. Seven-sixteenths in.
 4. Five-sixteenths in.
- 4-44. Which of the following is the main timing point on a 31-15 sewing machine?
1. Hook drive gear
 2. Hook pinion gear
 3. Needlebar
 4. Balance wheel
- 4-45. When you set the needlebar and it starts its upstroke, what is the distance of the hook in relation to the eye of the needle?
1. One-sixteenth inch above
 2. One-sixteenth inch below
 3. One-eighth inch above
 4. One-eighth inch below
- 4-46. To set the feeding action on a 31-15 sewing machine, you must loosen which of the following screws?
1. Feed dogs setscrew
 2. Feed dog cam fork setscrew
 3. Feed-driving rock shaft crank pinch screw
 4. Feed-driving rock shaft connection pinch screw

Learning Objective: Recognize the procedures for disassembling and assembling the 111 W 155 sewing machine.

- 4-47. You may have to grind off the case hardening surface on a sewing machine screw before you can remove it with an easyout.
1. True
 2. False
- 4-48. Which of the following screws has a left-hand thread?
1. Balance wheels retaining screw
 2. Arm shaft connection setscrew
 3. Feed eccentric adjusting screw
 4. Thread take-up lever retaining screw
- 4-49. Which of the following screws is loosened a quarter of an inch and is NOT to be removed when you disassemble the 111 W 155 sewing machine?
1. Presser bar spring setscrew
 2. Presser bar spring support screw
 3. Vibrating presser bar connecting screw
 4. Presser lifting link crank pinch screw
- 4-50. If binding should occur while removing the presser bar, what action should you take?
1. Apply a light oil coating
 2. Turn the presser bar slowly with a back and forth motion
 3. Both 1 and 2 above
 4. Insert a screw driver into the lower slot of the presser bar while applying an upward motion on the presser
- 4-51. When you remove the presser bar, which of the following parts will fall off?
1. Presserbar spring bracket
 2. Releasing bracket
 3. Guide lever
 4. All of the above
- 4-52. Which of the following parts prevents side to side movement of the needlebar rock frame?
1. The needlebar support bracket
 2. The needlebar hinge bracket
 3. The needlebar rock frame position bracket
 4. The needlebar rock frame hinge bracket
- 4-53. Which of the following parts eliminates end play in the balance wheel and arm shaft?
1. Balance wheel adjusting screw
 2. Arm shaft shim
 3. Balance wheel shim
 4. Arm shaft bushing
- 4-54. Which of the following parts transfers the motion from the arm shaft to the needlebar?
1. The needlebar rock stand
 2. The needlebar driving shaft
 3. The needlebar rock shaft
 4. The needlebar driving stud
- 4-55. What is used to remove the needlebar crank friction washer from the sewing machine after you remove the arm shaft?
1. Allen wrench
 2. Needle nose pliers
 3. Index finger
 4. Spanner wrench
- 4-56. Which of the following parts controls the feeding mechanism of the sewing machine?
1. Feed driving eccentric
 2. Safety clutch
 3. Feed lifting eccentric
 4. Feed drive gear
- 4-57. Which of the following parts converts the longitudinal motion of the hook driving shaft to the horizontal motion of the sewing hook?
1. Hook saddle assembly
 2. Hook pinion gear
 3. Hook driving gear
 4. Hook drive eccentric
- 4-58. What part allows the thread to pass between the bobbin case and the throat plate?
1. The bobbin case opener
 2. The thread take-up lever
 3. The thread controller spring
 4. The bobbin case gib

- 4-59. Before reassembling a sewing machine, what do you use to smooth rusty parts?
1. Sand paper
 2. Rubbing compound
 3. Emery paper
 4. Grinding compound
- 4-60. When reassembling a sewing machine, what part should you install first?
1. Arm shaft
 2. Hook drive shaft
 3. Bobbin case opener
 4. Hook saddle assembly
- 4-61. When the bobbin case opener is properly installed, it is in what position?
1. The curved end points toward the bobbin case
 2. The curved end points away from the bobbin case
 3. The blunt end points toward the bobbin case
 4. The blunt end points away from the bobbin case
- 4-62. What total number of spline grooves are on a hook driving shaft?
1. Five
 2. Six
 3. Seven
 4. Eight
- 4-63. On the hook driving shaft, the end with a spline is installed first into the right hook driving shaft bearing.
1. True
 2. False
- 4-64. When you are replacing the feed-driving eccentric, which of the following statements is true?
1. The oiling felt faces down and the crank toward the operator
 2. The oiling felt faces up and the crank toward the operator
 3. The oiling felt faces up and the crank away from the operator
 4. The oiling felt faces down and the crank away from the operator
- 4-65. When you are installing the hook driving shaft lock ratchet, the flange and setscrews face the left of the machine.
1. True
 2. False
- 4-66. Before you insert the needlebar rock frame assembly, the needlebar connecting link must be at its lowest position.
1. True
 2. False
- 4-67. When installing the presser bar into the machine head, you should insert it through the upper bushing about
1. 1 inch
 2. 2 inches
 3. 3 inches
 4. 3 1/2 inches